

OIB - C-130 Hercules #439 04/03/15 Science Report

Aircraft:

[C-130H Hercules #439](#) ([See full schedule](#))

Date:

Friday, April 3, 2015

Mission:

OIB

Mission Location:

Thule, Greenland

Mission Summary:

Mission: Sea Ice - South Canada Basin

This mission is designed to enhance the sampling in the large region between the North Basin Transect and the Beaufort-Chukchi Diamond that had been poorly sampled by OIB prior to 2012. This is a region of priority interest to the Canadian Space Agency. In addition to Level 1 Requirements SI1 and SI2, the mission addresses sea ice level 1 projected requirement SIP2 by extending the baseline observations into other regions of the Arctic Basin.

The pre-flight weather call was a challenging one. A strong weather front was located northwest of Thule, stretching from Ellesmere Island across the Pole toward Siberia. Our morning satellite imagery, as is the case every morning, did not extend far enough west to verify that the skies were clear west of the front. However our weather models implied the presence of an abrupt boundary between the front and clear weather associated with a strong high pressure system farther west. Since we only had two flying days remaining before we relocate south, and this area was our largest gap in existing sea ice coverage, we decided to risk the loss of some data and launch this mission. This turned out to be the correct course of action. The weather models predicted the clear skies to the west almost perfectly, and we obtained near 100% data coverage along the line.

Another challenging aspect for this flight was that it takes place on a Friday, which in Thule means that the airport line crew is dismissed one hour early. This in turn requires us to land 1 hour early, limiting our Friday flights to 7 hours. We accommodated that today by removing approximately 170 km of the western portion of the survey line, and cutting the corner.

All sensors operated normally today. This state of affairs did not come about easily, however. Most long deployments seem to have a day or two in which many unrelated things (we refer to these as "gremlins") go wrong all at once, and today was one of those days for the instrument teams. At least a half dozen problems cropped up on different instrument subsystems, mostly during the preflight. The high experience level of our field team paid dividends however, and as a result, each "gremlin" was addressed calmly and successfully, we launched within 10 minutes of the planned time, and all instruments performed normally once we were on the survey line. We had no issues with window fouling today.

Data volumes:

ATM: 12 Gb

CAMBOT: 62 Gb

DMS: 81 Gb

Ku-Band Radar: 51 Gb

MCoRDS: 488 Gb

Narrow Swath ATM: 30 Gb

NSERC Onboard Data: TBD

Snow Radar: 51 Gb

low-altitude data collection time: 3.3 hrs

high-altitude data collection time: 3.2 hrs

total data collection time: 6.5 hrs

Images:

Map of Sea Ice - South Canada Basin mission



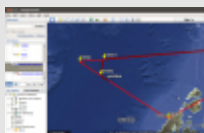
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Weather satellite image from this morning



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Cut the corner



[Read more](#)

Submitted by:

John Sonntag on 04/03/15

Related Flight Report:

C-130 Hercules #439 04/03/15

Flight Number:

Sea Ice - South Canada Basin

Payload Configuration:

OIB

Nav Data Collected:

No

Total Flight Time:

7.4 hours

Submitted by:

Mike Cropper on 04/03/15

Flight Segments:

From:	BGTL	To:	BGTL
Start:	04/03/15 10:50 Z	Finish:	04/03/15 18:15 Z
Flight Time:	7.4 hours		
Log Number:	151002	PI:	Michael Studinger
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		

Flight Hour Summary:

	151002
Flight Hours Approved in SOFRS	334.4
Total Used	297.6
Total Remaining	36.8

151002 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
03/12/15	ATF	Check	1.5	1.5	332.9
03/13/15	PTF - GPS	Check	2	3.5	330.9
03/13/15	PTF - Radar #1	Check	0.8	4.3	330.1

03/13/15 - 03/14/15	PTF - Radar #2	Check	4.5	8.8	325.6
03/16/15	PTF - Radar #3	Check	2.4	11.2	323.2
03/17/15	Transit	Transit	7.8	19	315.4
03/19/15	Nansen Gap	Science	7.4	26.4	308
03/24/15	Sea Ice - Zigzag East	Science	8.2	34.6	299.8
03/25/15	Sea Ice North Pole Transect ? Thule	Science	8.2	42.8	291.6
03/26/15	Sea Ice - Laxon Line	Science	9.2	52	282.4
03/27/15 - 03/28/15	Sea Ice - East Beaufort Sea	Science	8.2	60.2	274.2
03/29/15 - 03/30/15	Sea Ice - North Beaufort Loop	Science	8.9	69.1	265.3
03/30/15 - 03/31/15	Sea Ice - SIZRS Zigzag	Science	8.1	77.2	257.2
04/01/15	Sea Ice - South Basin Transect	Science	8.8	86	248.4
04/03/15	Sea Ice - South Canada Basin	Science	7.4	93.4	241
04/06/15	OIB Transit from BGTL-BGSF	Transit	3.3	96.7	237.7
04/08/15	Helheim-Kangerdlussuag	Science	8	104.7	229.7
04/09/15	K-EGIG Summit	Science	8.3	113	221.4
04/10/15	Southeast Glaciers 01	Science	8	121	213.4
04/11/15	East Glaciers 01	Science	8	129	205.4
04/13/15	Southeast Coastal	Science	7.7	136.7	197.7
04/14/15	Helheim-Kangerdlussuag Gap B	Science	7.9	144.6	189.8
04/17/15	Umanaq B	Science	7.5	152.1	182.3
04/18/15	Southwest Coast A	Science	8.1	160.2	174.2
04/20/15	Penny 01	Science	6.3	166.5	167.9
04/21/15	Thomas-Jakobshaven 01	Science	8.7	175.2	159.2
04/22/15	Southeast Flank 01	Science	7.6	182.8	151.6
04/23/15	Jakobshavn-Eqip-Store	Science	9.2	192	142.4
04/24/15	Geikie 02	Science	8.3	200.3	134.1
04/25/15	Jakobshaven 02/ Mop Up	Science	6.9	207.2	127.2
04/27/15	Southwest Coastal B	Science	8	215.2	119.2
04/28/15	Southeast Glaciers 02	Science	7	222.2	112.2
04/29/15	TRANSIT BGSF-BGTL	Transit	2.5	224.7	109.7
04/30/15	ATM Laser Repair Checkout	Science	2.3	227	107.4
05/01/15	NW Coastal A	Science	7.2	234.2	100.2
05/05/15	IceSat-2 North / CryoSat-2 SARIn	Science	8.2	242.4	92
05/06/15	North Glaciers 01	Science	8.2	250.6	83.8
05/07/15	Devon-Barnes 01	Science	7.8	258.4	76
05/08/15	Zigzag West	Science	7.2	265.6	68.8
05/11/15	Northwest Glaciers 01	Science	7.8	273.4	61
05/12/15	North-Central Gap 02	Science	8.1	281.5	52.9
05/15/15	North-Central Gap 01	Science	7.3	288.8	45.6
05/21/15	Transit - Thule to Bangor, ME	Transit	6.5	295.3	39.1
05/22/15	Transit - Bangor, ME to WFF	Transit	2.3	297.6	36.8

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

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